such that the light beam from the projector is directed to the end side flat reflection mirror.

In the rear projection television according to the present invention, it is preferable that an angle of a surface of the end side flat reflection mirror with respect to a surface of the screen is in a range from 70 degrees to 120 degrees. Further, it is preferable that an angle of the optical axis of the light beam, which is reflected from a center of the end side flat reflection mirror and incident on the center of the screen, with respect to a center normal line of the screen is 45 degrees or more.

According to the present invention, the depth size of the casing of the rear projection television can be one fifth a diagonal size of the screen or smaller.

The projection screen of the present invention preferably has a laminated structure of a full reflection type Fresnel lens and a lenticular lens and, particularly, an optical axis of the Fresnel lens is positioned outside the screen.

The rear projection television according to the present invention has a final stage mirror for folding the optical path, which is provided on the side of an upper plate or on the bottom side plate of the casing, and the focusing optical system may be constructed with a plurality of lenses. Further, the image display element may be constructed with a liquid crystal panel, which displays an image by reflecting and blocking light from a light source.

Alternatively, the image display element may be constructed with a DMD (Digital Micromirror Device), which is a collection of micro reflection mirrors for displaying an image by reflecting a light beam from a light source in an arbitrary direction.

A projection method of the rear projection television, according to the present invention, is featured by that the focusing optical system for enlarging and projecting an image on the image display element and focusing it on the projection screen and reflection mirrors are combined and arranged such that an optical axis of an incident light to a final one of the reflection mirrors is slanted to the screen to gradually reduce a distance between the optical axis and the screen.

Particularly, the present projection method is featured by that an incident angle of the light on the screen is 45 degrees or more. Further, the present projection method is featured by that a center of the focused image is different in position from the optical axis of the focusing optical system. Further, the projection method is featured by that the optical axis of the light beam reflected by one of the reflection mirrors, which is immediately preceding the final reflection mirror, is slanted to the screen to gradually reduce a distance between the optical axis and the screen.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a cross sectional side view of a first

example of a conventional rear projection television, showing an inner construction thereof;

FIG. 2 is a cross sectional side view of a second example of a conventional rear projection television, showing an inner construction thereof;

FIG. 3 is a cross sectional side view of a conventional rear projection television, illustrating a generation of stray light within the conventional rear projection television;

FIG. 4 is a cross sectional side view of a rear projection television according to a first embodiment of the present invention, showing an inner construction thereof;

FIG. 5 is a cross sectional side view of a rear projection television according to a second embodiment of the present invention, showing an inner construction thereof;

FIG. 6 is a cross sectional perspective view of the rear projection television according to the second embodiment of the present invention, showing the inner construction thereof;

FIG. 7 is a cross sectional side view of a rear projection television according to a third embodiment of the present invention, showing an inner construction thereof;

FIG. 8 shows a group of a plurality of focusing mirrors used in the respective embodiments of the present